

09/755282

## ABSTRACT

This invention relates to a new improved method and structure in the fabricating of aluminum metal pads. The formation special aluminum bond pad metal structures are described which improve adhesion between the tantalum nitride pad barrier layer and the underlying copper pad metallurgy by a special interlocking bond pad structure. It is the object of the present invention to provide a process wherein a special grid of interlocking via structures is placed in between the underlying copper pad metal and the top tantalum nitride pad barrier layer providing improved adhesion to the aluminum pad metal stack structure. This unique contact bond pad structure provides for thermal stress relief, improved wire bond adhesion to the aluminum pad, and prevents peeling during wire bond adhesion tests.

TSMC99-149